

THAT WHICH IS CLAIMED IS:

1. A plant micropropagation system for growth of plant tissue, said system comprising:
  - a vessel adapted for receiving sterile growth media, the vessel further  
5 adapted to completely enclose plant tissue therein;
  - a platform for supporting the vessel, the platform responsive to a pivot which engages said platform, said platform pivoting in response to a motor operatively coupled thereto;
  - wherein, as the platform pivots in response to the motor, said growth media  
10 within the vessel travels in a wave between opposite sides of the vessel.
2. The micropropagation system according to claim 1 wherein said platform is translucent.
3. The micropropagation system according to claim 1 wherein said platform defines a plurality of support rails.
- 15 4. The micropropagation system according to claim 1 wherein said platform further supports a light source for said micropropagation system.
5. The micropropagation system according to claim 1 wherein said system further comprises a linkage arm operatively connected at a first end to said platform, said linkage arm further operatively engaging along a second end a motor-driven  
20 cam.
6. The micropropagation system according to claim 1 wherein said system further defines a dispenser in communication with said vessel, the dispenser in further periodic engagement with the pivoting platform, the engagement providing an operative force upon the dispenser.
- 25 7. A micropropagation apparatus comprising:
  - at least one platform adapted for receiving a plant propagation vessel, said at least one platform supported by a pivot;
  - a cam-arm having a first end operatively engaging an edge of said at least  
one platform, a second cam arm end operatively engaging a cam member;
  - 30 a motor having a drive mechanism engaging said cam member;
  - wherein, when said motor moves said cam member, said cam arm moves said edge of said at least one platform thereby imparting a rocking motion to said platform.

8. The micropropagation apparatus according to claim 7 wherein said rocking action of said platform operatively engages a dispenser, said dispenser in fluid communication with said plant propagation vessel.
9. The micropropagation apparatus of claim 7 wherein said platform further  
5 comprises a plurality of support rails.
10. A process of propagating tissue comprising:
- (a) providing a supply of cultivated tissue within an aseptic container, said container having therein a substrate which supports said cultivated tissue;
  - (b) introducing a liquid cultivation medium to the aseptic container;
  - 10 (c) periodically moving an edge of said container about a pivot supporting said container, thereby providing contact between the culture media and at least a portion of the substrate;
  - (d) returning the container to a substantially horizontal orientation; and,
  - (e) repeating steps (c) through (d).
- 15 11. The process according to claim 10 wherein said step of moving an edge of said container further includes raising one edge of said container.
12. The process according to claim 10 wherein said step of periodically moving an edge of said container further comprises lowering an edge of said container.
13. The process according to claim 10 wherein said step of periodically moving an  
20 edge of said container further comprises the step of alternately raising and lowering an edge of said container.
14. The process according to claim 10 wherein said step of periodically moving an edge of said container further comprises providing a linkage arm operatively connected at one end to a platform supporting said container, said linkage arm  
25 further operatively engaging a cam, responsive to a drive motor.
15. The process according to claim 10 wherein said step of periodically moving an edge of said container further comprises using a motor-driven cam and cam follower to move said container.
- 16 The process according to claim 14 wherein said drive motor is controlled by a  
30 timer.
17. The apparatus according to claim 8 wherein said dispenser further defines a container having a piston head pump.

18. The micropropagation apparatus according to claim 7 wherein a second platform is carried in a plane parallel to said at least one platform and having a connecting member therebetween.
19. The apparatus according to claim 7 wherein said pivot is in further  
5 communication with a second platform, said second second platform and said at least one platform being substantially co-planar.
20. A process of separating embryos from propagated tissue cultures comprising:  
providing a vessel adapted for receiving aseptic tissue and media;  
placing within an interior of said vessel a separation matrix, the separation  
10 matrix comprising:  
an innermost layer of a substrate;  
a template positioned upon said substrate, said template defining a plurality of openings therethrough and providing communication with said substrate; and,  
15 a screen positioned above the substrate, said screen defining a plurality of openings;  
introducing into said vessel a supply of cultured tissue containing embryos and a separation medium;  
establishing an intermittent wave motion to said separation medium and said  
20 tissue culture;  
separating a plurality of individual embryos from said culture, said plurality of embryos passing through said openings of said screen and said openings of said template.
21. The process according to claim 20 wherein said separation medium  
25 comprises a tissue culture liquid medium.
22. The process according to claim 20 wherein said separation medium comprises a mixture of two liquids, the two liquids having separate phases.
23. The process according to claim 22 wherein said separation medium further comprises a first phase of a culture media and a second phase of an oil.
- 30 24. A process of separating oil soluble exudates and extractable materials from living plant tissue comprising:  
supplying a source of cultivated plant tissue to a separation vessel;  
introducing into said vessel a separation medium having at least two phases;

intermixing said two phases into a plurality of plates, said intermixing in responses to an intermittent oscillation of said cultivation vessel;

exposing said plant material to said plurality of phase plates, thereby extracting from said tissue material oil-soluble exudates and extracts;

5 separating said separation medium into two phases; and,

removing said oil phase containing said oil soluble exudates and extractions.

25. The process according to claim 24 comprising the additional step of introducing said plant material to fresh media following the removal of the oil phase separation media.

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